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BEFORE THE  
**Federal Communications Commission**

WASHINGTON, D. C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

ORIGINAL  
FILE

In the Matter of  
  
Redevelopment of Spectrum to  
Encourage Innovation in the  
Use of New Telecommunications  
Technologies

ET Docket No. 92-9

To: The Commission

**REPLY COMMENTS OF THE  
PUBLIC SAFETY MICROWAVE COMMITTEE**

The Public Safety Microwave Committee ("PSMC") hereby submits the following Reply to Comments submitted in response to the Commission's Notice of Proposed Rulemaking in the above-captioned proceeding.

PSMC's initial Comments strongly supported the Commission's decision to "grandfather" existing state and local government microwave facilities licensed in the 2 GHz band, while urging the Commission to accommodate future state and local government microwave needs, especially those for which there are no feasible alternatives to 2 GHz frequencies.<sup>1/</sup> Most of the other commenting parties recognize the need to protect vital state and local government microwave facilities and do not oppose the Commission's proposal in this regard.<sup>2/</sup>

<sup>1/</sup> Comments of PSMC (June 8, 1992).

<sup>2/</sup> See, e.g., Comments of Time Warner Telecommunications Inc. at 14-15.

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Those few comments, such as AT&T's,<sup>3/</sup> that oppose any special treatment for state and local government licensees ignore the Congressional mandate that public safety needs receive "top priority" in spectrum allocation matters. Nor do those parties recognize the severe hardship that state and local governments (and taxpayers) would face if forced to relinquish their microwave frequencies. Those points have been fully addressed in PSMC's initial Comments and require no further elaboration at this time.

Some of the other initial comments of various parties do require a brief reply, however.

**I. THE COMMISSION SHOULD NOT ATTEMPT TO DISTINGUISH BETWEEN STATE AND LOCAL GOVERNMENT MICROWAVE USERS.**

A few parties suggest that only some state and local government facilities should be entitled to permanent primary status, and attempt to draw a distinction between essential public safety uses and other supposedly less critical government operations.<sup>4/</sup> In fact, the vast majority of state and local government microwave systems are used primarily, if not exclusively, by police, fire, emergency medical and other critical emergency response

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<sup>3/</sup> AT&T Comments at 13-14. AT&T's preposterous recommendation that all 2 GHz private microwave licenses expire on January 1, 1997, must be placed in the context of its historic opposition to private microwave systems which it perceives as a threat to its primary business.

<sup>4/</sup> Comments of NYNEX Mobile Communications Company at 8; Comments of Ameritech at 7; Comments of American Association of Railroads ("AAR") at 30.

agencies.<sup>3/</sup> Some government microwave systems are also used by other "less-critical" agencies, though they usually share their systems with emergency public safety agencies. However, attempting to draw fine distinctions between various government users is nearly impossible and fails to take into account the overall public safety role of all government communications systems and the impact on taxpayers of displacing those systems.

All government agencies, by definition, serve the public, and most fill direct or indirect public safety roles, especially during and after major emergencies and disasters such as snowstorms, hurricanes, wind storms, earthquakes, forest fires and civil disturbances. During such events it is especially important that critical government services remain operational and have the communications capacity to ascertain and respond to public needs. Unfortunately, normal means of communication are often unavailable at such times as public telephone systems are either out of operation or overburdened. Therefore, state and local government communications systems are usually designed to accommodate the needs of all government agencies (not just police, fire and emergency medical) whose

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<sup>3/</sup> For example, the Los Angeles County microwave system is used by the County Sheriff's Department, Marshall, hospital and emergency medical system, Fire Department, and Emergency Operations Center (which links these and other public safety agencies in times of emergency, such as the recent Los Angeles area riots). See also Comments of PSMC at 6-8.

services are required during major emergencies when public communications are unavailable.

In addition, many state and local government microwave systems are designed so that capacity used by other agencies can be shared or temporarily reassigned to various emergency agencies as needed. In short, just because all of the users of a microwave system are not police and fire departments, does not mean that the system is not vital for the protection of life and property and entitled to "top priority" under the Communications Act.<sup>6/</sup>

Even if it were possible that a few non-essential state and local government microwave users could somehow be identified, it would be of little benefit to treat them differently than other users. Most government microwave systems serve multiple agencies and activities on a shared basis. Therefore, eliminating a supposedly less critical user from a state and local government system would not reduce the system's overall need for radio spectrum, it would merely make available a small number of channels on the system.

Finally, forcing any state and local government systems to move to other frequencies would be an enormous financial burden on taxpayers.<sup>7/</sup> All state and local government communications systems are used to protect and serve the public. It is the public who paid to build these microwave

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<sup>6/</sup> See Comments of PSMC at 8-9.

<sup>7/</sup> See Comments of PSMC at 10-13.

systems and is the public who would be stuck with the bill for replacing any systems relegated to secondary status and evicted from 2 GHz.<sup>8/</sup>

**II. STATE AND LOCAL GOVERNMENT LICENSEES SHOULD NOT BE FORCED TO SELL-OUT TO NEW EMERGING TECHNOLOGIES.**

Telocator and others support permanent primary status for all existing 2 GHz licensees, but would require an existing user to relocate if a new eligible user (such as a PCS operator) demonstrates that substitute frequencies are available and agrees to pay all of the actual costs related to the relocation. PSMC opposes such mandatory "buy-outs," at least for state and local government licensees, who should be allowed, but not required, to "sell" their spectrum rights. The mandatory system proposed by Telocator will lead to prolonged disputes over the adequacy and reliability of replacement frequencies and reimbursements. It would also disrupt vital public safety operations, and is

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<sup>8/</sup> Railroads, utilities, and petroleum companies argue that they too are "safety" services and should be treated the same as state and local governments. PSMC takes no position as to whether microwave systems used by those industries should also have permanent primary status. Nor does PSMC dispute that railroads, utilities and petroleum companies are important businesses with significant communication needs. However, they are not public safety agencies and should not be treated as such. Only government is chartered by the public to protect and serve the public at the expense of the public. State and local government agencies are fiduciaries of the public, whereas private businesses are the fiduciaries of their shareholders. Only government is charged by the public to provide day-to-day law enforcement, fire protection, emergency medical services, maintenance of public ways, and other critical public services.

unlikely to fully compensate state and local governments for both the direct and indirect costs of moving their systems.

A "new emerging technology" and a local government entity are unlikely to agree in every case that (1) alternative frequencies are available and would provide equivalent service or (2) that the dollar amounts proposed are adequate to cover all expenses. Disputes would inevitably arise regarding system design, reliability, performance specifications, equipment types and redundancy. Fighting these battles would be expensive and time-consuming for state and local governments, which have extremely limited staff and resources, and would be badly outgunned by better financed PCS and other emerging technology firms.<sup>2/</sup> Whereas a PCS firm may have millions of dollars at stake and resources for extensive legal and engineering support, most state and local government licensees operate under extreme financial constraints and are lucky to be able to afford a single staff person who is generally familiar with its microwave system.

Switching frequencies is also a complex and expensive process, especially if new towers are necessary to accommodate heavier antennas. Because of the sensitive nature of state and local government microwave communications, parallel transmission paths would have to be made available during construction (often with great

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<sup>2/</sup> Even with arbitration (which Telocator proposes), state and local governments would be forced to bear the entire cost of the arbitration if they lose.

difficulty and expense) to minimize disruption to vital public safety operations. A "seamless" switch is impossible in most situations.

Any frequency move will also involve substantial time commitments from state and local government personnel, further disrupting public safety operations. It is as if someone could force you to move out of your home, provided only that you had someplace to move and they paid the cost of the moving van. No compensation would be offered for the time and headaches related to preparing for and making the move, or for ancillary expenses such as obtaining new spare parts and training staff.

Motorola acknowledges that relocating to another band would require existing users to "dedicate significant time and effort to ensure a smooth transition." Comments of Motorola at 16. As further "compensation" for this disruption, Motorola recommends that the Commission allow displaced fixed microwave users "first rights" for private PCS systems, and that a separate portion of the 2 GHz band be set aside for that purpose. Id. at 17. This is hardly sufficient.

PSMC agrees that, if the band is to be reallocated, a portion should be reserved for private PCS networks (though PSMC would urge that a portion of the band be set aside specifically for public safety private PCS networks). Nevertheless, not all state and local government will have the need or the ability to build such PCS networks. They

should not, therefore, be required to sell-off their vital microwave frequency rights in exchange for something they neither need nor desire.

**III. ALL RURAL MICROWAVE USERS SHOULD RECEIVE PRIMARY 2 GHz LICENSES.**

Harris Corporation-Farion Division ("Harris") and the American Petroleum Institute ("API") urge that the Commission continue to grant rural microwave licenses on a primary basis for all categories of users. They note that new technologies such as PCS will be primarily urban services and that if, and when, those services reach rural areas, there is likely to be sufficient spectrum in the 2 GHz band without relocating fixed microwave users. However, if relegated to secondary status, rural microwave users will avoid 2 GHz because of the chance, however, slim, that they might someday be forced to move. Harris suggests that this may lead to a shortage of 2 GHz microwave equipment.

PSMC agrees that all current and future rural 2 GHz microwave systems should be licensed on a primary basis, as there is no foreseeable need to reallocate rural 2 GHz frequencies for other purposes.<sup>10/</sup> Providing a level of security to rural users will also help to maintain a market for 2 GHz equipment -- as will allowing all state and local government users to build new and expanded 2 GHz microwave

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<sup>10/</sup> In addition, the longest 2 GHz microwave paths (which are the most difficult to relocate to other bands) tend to be in rural areas.



systems (regardless of geographic location) on a primary basis, as PSMC has urged.<sup>11/</sup>

**IV. THE COMMISSION MUST ACCOMMODATE THE NEEDS OF THE REGIONAL PUBLIC SAFETY PLANS.**

PSMC's initial Comments pointed out that state and local governments are experiencing increasing demand for microwave facilities, in large part because of the migration to spectrum efficient area-wide 800 MHz trunked radio systems being built pursuant to the National Plan for Public Safety.<sup>12/</sup> Microwave facilities are used to tie together the many remote transmitter sites needed for such area-wide operations. Thus, PSMC urged that the Commission continue to grant state and local governments licenses for new and expanded 2 GHz microwave facilities on a primary basis, at least where there are no feasible alternatives to 2 GHz frequencies.

The Region-20 Public Safety Review Committee ("Region-20") notes in its Comments that the freeze on primary microwave authorizations in the 2 GHz bands poses particular problems for public safety agencies with new 800 MHz systems in the "pipeline". Many agencies are in various stages of system design, such as working with regional planning committees, obtaining frequency coordination, or constructing early stages of their systems. All of their planning may be premised on the availability of 2 GHz

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<sup>11/</sup> PSMC Comments at 14-22.

<sup>12/</sup> PSMC Comments at 15.

microwave facilities, though they may not need (and will not apply for) those microwave links until the various parts of their area-wide systems are built.

Therefore, Region-20 recommends that all public safety 2 GHz applications be granted on a primary basis for three years from the adoption date of the final order in this proceeding. PSMC agrees, though it believes that three years is insufficient as not all regional plans are as far along in their activities as Region-20. In any event, this provision should not be a substitute for a permanent provision allowing state and local governments to obtain primary 2 GHz microwave authorizations when alternatives are not available (whether in three years or ten years).

**V. THE COMMISSION MUST NOT ALLOW CO-PRIMARY 2 GHz MOBILE OPERATIONS TO INTERFERE WITH VITAL PUBLIC SAFETY COMMUNICATIONS SYSTEMS.**

Several parties suggest that the Commission should focus its attention on sharing of the 2 GHz band. PSMC remains concerned, however, that none of these parties have proven conclusively that mobile PCS systems can coexist in the 2 GHz band with fixed microwave operations. Among the many unresolved issues include (1) whether spread spectrum systems (even with the use of notch filters) will protect against interference as the number of PCS units within a microwave path increases, (2) whether sharing proposals take into consideration the fact that many microwave systems use unpaired frequencies, and that both frequencies need to be

protected, (3) the degree to which interference protection relies on installation of expensive high-performance antennas and who will pay for those antennas, and (4) the danger of reducing microwave receiver sensitivity (as called for by some sharing proposals) which would reduce reliability, especially for data applications using long microwave paths.

PSMC continues to study the sharing proposals presented to the Commission, but at this time remains unconvinced that sharing will prevent interference to vital public safety microwave communications.

#### CONCLUSION

For the reasons discussed above and in its initial Comments, PSMC urges the Commission to retain primary status for all state and local government microwave licensees in the 2 GHz band, to grant new licenses on a primary basis for state and local government microwave systems that are already in the "pipeline" or where there are no feasible alternatives to 2 GHz frequencies, and to prevent

interference from co-primary users to vital public safety  
microwave operations.

Respectfully submitted,

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